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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,995	05/24/2001	Kanta Yamamoto	FUSA 18.695	2643
26304	7590	03/16/2005	EXAMINER	
KATTEN MUCHIN ZAVIS ROSENMAN 575 MADISON AVENUE NEW YORK, NY 10022-2585			MOORE JR, MICHAEL J	
			ART UNIT	PAPER NUMBER
			2666	

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/864,995

Applicant(s)

YAMAMOTO, KANTA

Examiner

Michael J. Moore, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7 and 8 is/are rejected.
- 7) ☒ Claim(s) 5, 6 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/24/01</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Information Disclosure Statement***

1. The information disclosure statement (IDS) submitted on 5/24/2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

### ***Claim Objections***

2. Claims 1, 3, 4, 6, and 7 are objected to because of the following informalities:

Regarding claim 1, on line 8, the word "the" following the word "having" should be "a".

Regarding claim 3, on line 7, the word "belongs" should be "belong".

Regarding claim 4, on line 12, the word "the" is needed between words "of" and "queue".

Regarding claim 6, on line 4, the word "the" is needed between words "before" and "actual".

Regarding claim 7, on line 3, the word "a" is needed before word "data-transmission". Also, on line 14, the word "actual" is needed before word "data" to be more clear.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims **1-4, 7, and 8** are rejected under 35 U.S.C. 102(e) as being anticipated by Angle et al. (U.S. 6,771,596) ("Angle"). Angle teaches all of the limitations of the listed claims with the reasoning that follows.

Regarding claim 1, "a packet transmitting apparatus for transmitting, in order, packets belonging to a plurality of groups having priorities that differ from one another" is anticipated by network device 100 of Figure 1 that contains fabric input 107, which includes a set of virtual output queues for different service classes (priorities) as spoken of on column 4, lines 39-51. "A queue controller for generating queues group by group and giving packet transmit privilege in order to elements constituting each of the queues" is anticipated by fabric input 107 (queue controller) of Figure 1 that includes a set of virtual output queues for different service classes (priorities) as spoken of on column 4, lines 39-51 and that also receives grants (packet transmit privilege) from scheduler 215 of Figure 2 that are then provided to the queues as spoken of on column 8, lines 27-41. "A packet-transmit group decision unit for deciding that a packet transmit group is a group having the highest priority among groups in which a packet corresponding to at least one queue element is awaiting to be transmitted" is anticipated by scheduler 215 of Figure 2 that evaluates the requests received from the input ports 107 for the current class of service and identifies which input ports are to receive priority for a scheduling cycle as spoken of on column 8 lines 1-18. Lastly, "wherein the queue

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controller transmits a packet, which corresponds to a queue element having the packet transmit privilege, in the queue of the packet transmit group that has been decided by the packet-transmit group decision unit” is anticipated by the transfer of at least one high priority multicast cell across the fabric 120 of Figure 1 during each scheduling cycle as spoken of on column 8, lines 31-35.

Regarding claim 2, “if a packet corresponding to a queue element having the packet transmit privilege is not waiting to be transmitted, the queue controller transmits a packet waiting to be transmitted that corresponds to a queue element that is next in the order” is anticipated by the update phase spoken of on column 8, lines 42-56, where a priority indicator is incremented to point to the next input port having a grant when no cells are pending in the current multicast queue.

Regarding claim 3, “a group setting unit for adopting, as queue elements, combinations of input ports and quality classes added onto packets that enter from these ports, and setting groups to each of which these queue elements belong” is anticipated by fabric input 107 (group setting unit) of Figure 1 that includes a set of virtual output queues for different service classes (quality classes) as spoken of on column 4, lines 39-51. Lastly, “wherein the queue controller gives the packet transmit privilege, equally and in order in round-robin fashion, to each of the queue elements queue by queue” is anticipated by the global multicast round robin counter spoken of on column 8, lines 1-18 that is used to identify which input port is to receive priority for the current scheduling cycle for each class of service.

Regarding claim 4, "a buffer for storing a packet, which is waiting to be transmitted, for every queue element" is anticipated by fabric input 107 of Figure 1 that includes a set of virtual output queues (buffers) for different service classes as spoken of on column 4, lines 39-51. "A request generator for generating a transmit request signal for every queue element corresponding to a buffer in which a packet waiting to be transmitted has been stored" is anticipated by input ports 107 (request generators) of Figure 2 that communicate transmit requests 235 to fabric configuration manager 110. Lastly, "wherein the transmit-group decision unit identifies groups in which a packet waiting to be transmitted exists based upon whether or not there is a transmit request signal from at least one of the queue elements belonging to each of the groups, and decides that a group having the highest priority among these groups is the packet transmit group" is anticipated by transmit requests 235 identifying the output port(s), if any, to which the corresponding input port has a cell ready to be transferred as spoken of on column 6, lines 64-67 as well as scheduler 215 of Figure 2 that evaluates the requests received from the input ports 107 for the current class of service and identifies which input ports are to receive priority for a scheduling cycle as spoken of on column 8 lines 1-18.

Regarding claim 7, "a data-transmission flow rate setting unit for setting data transmission flow rate, which is transmitted per set period of time for every queue element", "a means for monitoring actual data transmission flow rate per the set period of time for every queue element", and "packet-transmit inhibiting means for monitoring the actual data transmission flow rate for every queue element, and generating a

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transmit-inhibit signal which inhibits transmission of a packet corresponding to the queue element, until the set period of time elapses, when the data transmission flow rate has become equal to the set data transmission flow rate” is anticipated by output ports 109 of Figure 2 that assert a back pressure signal 250 (transmit-inhibit signal) to fabric configuration manager 110 when one or more of their output queues exceed a predetermined threshold of pending cells as spoken of on column 7, lines 7-23, which causes input ports to refrain from transferring cells to these output ports.

Regarding claim 8, “wherein the packet-transmit inhibiting means clears the actual data transmission flow rate to zero and cancels transmit inhibit every set period of time” is anticipated by column 7, lines 20-22, which states that when the number of pending cells of an output queue affected by back pressuring falls below another predetermined threshold, the output port deasserts the back pressure signal.

***Allowable Subject Matter***

5. Claims 5, 6, and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 5, Angle teaches the apparatus of claim 1. Angle fails to teach the setting of an assured data transmission quantity for a single packet transmit privilege, a monitoring unit for monitoring this quantity, and a control signal generator for outputting a control signal used for delivering the transmit privilege to the next queue

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element when the actual data transmission quantity is equivalent to the assured data transmission quantity.

Regarding claim 6, this claim is further limiting to claim 5 and is thus also allowable over the prior art of record.

Regarding claim 9, Angle teaches the apparatus of claim 8. Angle also teaches a buffer and a request generator as explained in the rejection of claim 4 above. Angle fails to teach that when the transmit-inhibit signal has been generated with respect to a certain queue, the request generator forgoes the generation of the request signal even if a packet ready to be transmitted exists in this queue.

### ***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Isoyama et al. (U.S. 6,570,873), Reches (U.S. 2002/0110086), Chao et al. (U.S. 6,667,984), and Galand et al. (U.S. 5,838,922) are all references that contain material pertinent to this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (571) 272-3168. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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mjm MM

  
**FRANK DUONG**  
**PRIMARY EXAMINER**

Michael J. Moore, Jr.  
Examiner  
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